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10/648,120	08/25/2003	Stephen P. Farrell	ARC920030032US1	3193

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 6-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 6-22* is/are rejected.

7)☒ Claim(s) *6-8 and 12-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to the following communications: Amendment filed 06/19/2003.

This action is made Final

2.   Claims 1, 6-22 are pending in the case. Claims 1, 17, and 20 are the independent claims. Claims

2-5 have been cancelled. The Examiner indicates to Applicant that a new Examiner has been

assigned to the case. The Examiner also notes, to avoid potential confusion, that a difference

reference to Tognazzini (5731805) has been used in this rejection as compared to (5886683) and

applicant's amendment has necessitated this final office action.

Specification

Claims 6-8 and 12-15 are objected to because of the following informalities:

Claims 6-8 and 12-15 depend from cancelled claims and have not been renumbered in the

amendment to show from which claim they further limit or depend from.

Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The computer readable medium recited in claim 20 is not explicitly defined within the specification and lacks antecedent basis in the specification" *so that the meaning of the terms in the claims may be ascertainable by reference to the description*" (See 1.58(a)). The present application specification states the following: "[0041] FIG. 1 illustrates an exemplary high-level architecture of an integrated gaze/manual control system 100 comprising a display object expansion and/or contraction system 10 that automatically expands a region of a video screen when system 100 determines that a user has visually selected that region or object. System 10 comprises a software programming code or computer program product that is typically embedded within, or installed on a computer. Alternatively, system 10 can be saved on a suitable **storage medium** such as a diskette, a CD, a hard drive, or like devices ". Perhaps the applicant can amend the claim to recite the definition in the specification, for example: "a storage medium executing instructions.... Etc"

Claim Rejections - 35 USC § 103

3.   **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness**

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1, 6-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatfield et al. (Patent No. 6,243,076) in view of Tognazzini et al. (Patent No. 5,731,805).**

In regard to **Independent claim 1,** Hatfield teaches a method of interacting with a monitor, comprising:

- Modifying a portion of an output displayed on a monitor (see e.g., col. 10, lines 18 – 29; i.e., the user is able to modify a portion of the display by activating comet 309, 313, and 317, wherein the modification of a portion of a display corresponds to scrolling vertically or horizontally through the readable text or closing the help text display) by tracking an eye gaze (see e.g., col. 10, lines 18 – 29; i.e., comet 309, 313, and 317 are tracked by the user) and by monitoring an input indicator (see e.g., col. 6, lines 14 – 24; i.e., 17 – 21; i.e., the system monitors the association of comet movement and input device movement) on the monitor that reflects a user's activity (see e.g., col. 6, lines 14 – 24; i.e., input devices, such as a mouse, trackball, or joystick can be used to reflect a user's activity, wherein the system monitors the user's point-of-interest), wherein the output comprises at least part of a target object (see e.g., col. 10, lines 18 – 29; i.e., the target object corresponds to the readable text file invoked by the user, wherein parts of the readable document can be scrolled horizontally or vertically through the use of comet 309, 313, and 317);

- Wherein tracking the eye gaze comprises monitoring a user's eye movement (see e.g., col. 10, lines 18 – 21; i.e., the system monitors the eye gaze tracked by the user of comet 309) in a direction of the target object (see e.g., col. 10, lines 18 – 21; i.e., the direction of the target object corresponds to the tracking of a user's horizontal or vertical eye gaze of the readable help document using comet 309, 313, and 317), and further monitoring a

trajectory of the input indicator on the monitor (see e.g., col. 6, lines 14 – 21; i.e., the

system monitors the movement and direction of the input device towards the comet);

- Wherein the portion of the output is modified (see e.g., col. 10, lines 18 – 29; i.e., the user

  is able to modify a portion of the display by activating 309, 313, and 317) upon detecting

  the coincidence of the user's eye movement (see e.g., col. 10, lines 18 – 21; i.e., when

  comet 309 is tracked by the user's eye gaze, and a portion of the display is scrolled up)

  and the input indicator trajectory in the direction of the target object (see e.g., col. 6, lines

  14 – 24; i.e., the modification to a portion of the display is modified with input devices,

  such as a mouse, trackball, or joystick).

- Identifying the target object through eye-gaze tracking (see e.g., col. 4, lines 40 – 55; i.e.,

  the user manipulates a "comet" on a display by using eye gaze)

Hatfield does not expressly teach:

- Wherein modifying the portion of the output comprises selectively expanding a target

  object region in the portion of the output

- Wherein modifying the portion of the output further comprises selectively contracting

  a region surrounding the target object region in the portion of the output, to

  compensate for the expanded target object region.

However, Tognazzini teaches a eye-gaze tracking mechanism for text enlargement that

expressly teaches a process of enlarging a target object of Text and contracting a second object

of text in the same screen for the purposes of utilizing the available screen area and not enlarging

the window to display the text so that the user can see it in an enlarged manner (See figure 11,

and column 14, lines 6-37). Hatfield and Tognazzini are analogous art because they both teach

processes of eye-gaze tracking and both teach processes of tracking objects on the display.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of

the invention, having the teachings of Tognazzini and Hatfield in front of them, to modify the

system of Hatfield to include the text enlargement feature of Tognazzini. The motivation to

combine comes expressly from the teachings within Hatfield (See column 1, lines 60-65), to use

Tognazzini, to provide detailed information about the subject that the user is looking at.

With respect to **dependent claim 6**, Hatfield teaches determining a modification time based on

data derived concurrently from the user's eye gaze (see e.g., col. 5, lines 36 – 43 and column 14,

Lines 42-67; the modification time corresponds to an arbitrary period of time, wherein the time

and action of a function is derived from a user's point-of-gaze track and other various conditions).

With respect to **dependent claim 7**, Hatfield teaches determining a motion direction of the input

indicator (see e.g., col. 6, lines 14 – 24).

With respect to **dependent claim 8**, Hatfield teaches identifying the target object based on data

derived concurrently from the eye gaze and the direction of movement of the input indicator (see

e.g., col. 6, lines 14 – 31; i.e., identifying a target object can be based on data derived from eye

gaze, input indicator, combinations and subcombinations of eye gaze and input indicators).

With respect to **dependent claims 9 -11**, Hatfield teaches interactive graphical user interface

components (see e.g., col. 9, lines 35 – 38; i.e., the graphical user interface components

corresponds to drop down list boxes, check boxes, edit fields, and various buttons). Hatfield et al.

does not specifically mention identifying the portion of the output based on boundaries of

interactive graphical user interface components. However, this limitation would have been

obvious to one of ordinary skill in the art at the time of the invention, in view of Tognazzini,

because Tognazzini teaches a process of determining text boundaries as shown in Figure 11,

where there are four columns, and the expanding and contracting occurs around the text between

the columns of data (See figure 11 and column 14, lines 6-51). Tognazzini also teaches the

process of expanding the text is so that the user can interact with the text and read it (See column

15, lines 10-25). Tognazzini further teaches that the components, text, images, audio can be

selected and magnified (See column 8, Lines 5-10).

With respect to **dependent claim 12,** Hatfield teaches the input indicator (see e.g., col. 17, lines

43 – 49; i.e., the input indicator corresponds to a cursor associated with an input device) is

inputted by an input device that comprises any one or more of a mouse (see e.g., col. 17, lines 43

– 44; i.e., conventional mice, remote mice), a touch screen (see e.g., col. 2, line 5; i.e., touch

screen), a tablet computer (see e.g., col. 2, lines 5 – 6), a personal digital assistant (see e.g., col.

17, line 49; i.e., microprocessor-based system or device), a stylus (see e.g., col. 17, lines 44; i.e.,

light pens), and a motion sensor (see e.g., Fig. 1 and col. 9, line 29; i.e., eye tracker controller

129).

With respect to **dependent claims 13- 16,** as indicated in the above discussion, Hatfield in view

of Tognazzini, teach every element of claim 5 and 12.

Hatfield does not expressly teach *transforming the portion of the output by hiding an area*

of the monitor by an increase in side of the target object or moving one or more objects on the

monitor towards one or more edges or reducing a size of one or more objects located adjacent

the target object while maintaining a change or original appearance and restoring the target

object to the original appearance when the eye-gaze indicates the object is no longer selected.

However, these limitations would have been obvious to one of ordinary skill in the art at the time

of the invention, in view of Tognazzini, because Tognazzini teaches a process of moving an

object to the edges of the screen to accommodate the selected object (See figure 11) and a

process of reducing the size of the objects within the screen adjacent to the selected object (See

column 14, lines 6-67). Tognazzini also shows restoring the image to the original shape (see

column 14, lines 24-50) and a process of hiding an area of the monitor that is covered by the

enlarged object (See figure 12, objects behind are hidden or overlapped).

In regard to **Claims 17- 19,** claims 17-19 reflect the system comprising computer readable

instructions for performing the steps of method claims 1, 6 -7, respectively, and are rejected along

the same rationale.

In regard to **Claims 20-22,** claims 20-22 reflect the system comprising computer readable

instructions for performing the steps of method claims 1, 6 -7, respectively, and are rejected along

the same rationale.

**It is noted that any citation to specific pages, columns, lines, or figures in the prior art
references and any interpretation of the references should not be considered to be limiting in any
way. A reference is relevant for all it contains and may be relied upon for all that it would have
reasonably suggested to one having ordinary skill in the art. In re *Heck*, 699 F.2d 1331, 1332-
33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re *Lemelson*, 397 F.2d 1006,1009, 158 USPQ 275,
277 (CCPA 1968)).**

Response to Arguments

Applicant's arguments with respect to claims 1 and 6-22 have been considered but are moot in view of

the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the

extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Steven B. Theriault whose telephone number is (571) 272-5867. The examiner can

normally be reached on M, W, F 10:00AM - 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SBT

WEILUN LO
SUPERVISORY PATENT EXAMINER